CONTENTS

Special Issue: Selected papers presented at the 3rd Conference on Recent Developments in Structural Continua, Montreal, Quebec, Canada, May 26–28, 1993

Preface ix

A comparison between texture and rheological behaviour of lyotropic liquid crystalline polymers during flow
J. Vermant, P. Moldenaers (Heverlee, Belgium), S.J. Picken (Arnhem, Netherlands) and J. Mewis (Heverlee, Belgium) 1

Rheology of several hundred rigid bodies
B.Z. Dlugogorski, M. Grmela, P.J. Carreau (Montreal, Que., Canada) and G. Lebon (Liège, Belgium) 25

Modelling the rheological behaviour of fibre suspensions in viscoelastic media
A. Ait-Kadi, (Ste-Foy, Que., Canada) and M. Grmela (Montreal, Que., Canada) 65

Time periodic rectilineal simple fluid flows
J. Dunwoody (Belfast, UK) 83

Predicting polymer melt behaviour near the inception of wall slip in oscillatory shear
R.S. Jeyaseelan and A.J. Giacomin (College Station, TX, USA) 99

A rheo-optical study of polydimethylsiloxane melt
R. Subramanian and J.J.C. Picot (Fredericton, N.B., Canada) 113

Filtration in viscoelastic continua
W. Kozicki and H. Slegr (Ottawa, Ont., Canada) 129

A phenomenological viscosity model for polymeric fluid
W.N. Song (Toronto, Ont., Canada) and Z.M. Xia (Hamilton, Ont., Canada) 151

The effect of a thermal gradient on the motion of a bubble in a viscoelastic fluid
C.F. Chan Man Fong and D. De Kee (Sherbrooke, Que., Canada) 165

The motion of a sphere falling under gravity in a constant-viscosity elastic liquid
W.M. Jones, A.H. Price and K. Walters (Aberystwyth, UK) 175

Solving microstructure electrostatics with MIMD parallel supercomputers and Split-C
F. Traenkle, M.I. Frank, M.K. Vernon and S. Kim (Madison, WI, USA) 197

The structure of turbulence in a dilute polymer solution
P.H.J. van Dam, G.H. Wegdam and J. van der Elsken (Amsterdam, Netherlands) 215

Chaos and overstability in the thermal convection of viscoelastic fluids
R.E. Khayat (Boucherville, Que., Canada) 227

Peristaltic flow of a second-order fluid in tubes
A.M. Siddiqui (York, PA, USA) and W.H. Schwarz (Baltimore, MD, USA) 257

Calendar 285

Subject Index of Vol. 53 287

Author Index of Vol. 53 289